Mars Observed: The Mars Observer

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The Mars Observer spacecraft was launched on September 25th and is presently approximately one-half way through its journey to Mars. After a seventeen-year hiatus we are returning to the Red Planet..

Mars Observer will extend the exploration and characterization of Mars by providing new and systematic measurements of the surface and atmosphere of the planet. These measurements will be made from a low-altitude polar orbiter over a period of one Martian year (687 Earth days) , permitting repetitive observations of the surface and of the seasonal variations of the atmosphere.

The scientific objectives for the mission emphasize qualitative and quantitative determination of the elemental and mineralogical. composition of the surface: measurement of the global surface topography, gravity field, and magnetic field; and the development of a synoptic data base of climatological conditions.

As a result of this mission we will have a systematic global characterization of Mars today. This characterization will help us to understand the geologic and climatologic history of Mars, the evolution of its interior and surface, and provide a basis for comparison with Venus and Earth. In late 1995, near the end of Mars Observer's nominal mission, it will begin to *serve as* a science data relay facility for the landed stations deployed by the Russian "Mars 94" *mission.*

'l'he mission, spacecraft., and payload character sties will be described. Science instrument operations are conducted from remote sites, and this pathfinding arrangement will be discussed.